What is claimed is:

- A method of removing at least one population of target pathogens from a biological fluid sample, comprising:
 - (a) providing a plurality of high density microparticles having bound thereto a reactant which specifically binds to the target pathogen, and having a density sufficient to provide differential gravity settling of the target pathogen from the sample;
 - (b) mixing a portion of the sample with the microparticles to bind the microparticles to the target pathogen;
 - (c) settling the microparticles with the bound pathogen in the sample to produce a supernatant substantially free from the bound pathogen, where the settling is accomplished primarily by gravity; and
 - (d) separating the microparticles bound to the pathogen from the supernatant.
- 2. The method of Claim 1 wherein said mixing is effected by passing the microparticles at least once through the sample.
- The method of Claim 2 wherein said mixing and settling steps are conducted simultaneously such that mixing is effected solely by differential gravity settling.
- The method of Claim 2 wherein said mixing is effected by causing the microparticles to repeatedly settle through a substantial portion of the sample.
- 5. The method of Claim 4 wherein said mixing is effected by vortexing or nutation.
- 6. The method of Claim 4 wherein said mixing is effected by tumbling the sample and the microparticles end-over-end.
- 7. The method of Claim 1 which further comprises spinning the microparticles and sample to accelerate the settling step.
- 8. The method of Claim 1, wherein said microparticles are magnetic and said method further comprises applying a magnet or magnetic field to the sample and microparticles after the settling step.
- 9. The method of Claim 1 wherein more than one population of pathogens are

- removed sequentially or all at one time.
- 10. The method of Claim 1 wherein the reactant is an antibody.
- 11. The method of Claim 1 wherein the reactant is bound covalently to the microparticles.
- 12. The method of Claim 1 wherein the reactant is bound to the microparticles by streptavidin-biotin coupling.
- 13. The method of Claim 1 wherein said microparticles are formed of nickel.
- 14. The method of Claim 1 wherein said microparticles have a diameter of 1 to 50 microns.
- 15. The method of Claim 1 wherein said microparticles have a diameter of 3 to 35 microns.
- 16. The method of Claim 1 wherein said biological fluid sample comprises non-target materials and the microparticles are 2 to 3 times more dense than said non-target materials.
- 17. The method of Claim 15 wherein said microparticles have a density greater than 2 g/cm³.
- 18. The method of Claim 16 wherein said microparticles have a density of 9 gm/cm³.
- 19. The method of Claim 1 wherein the biological fluid sample is dispersed tissue, bone marrow aspirates or vertebral body bone marrow.
- 20. The method of Claim 18 wherein the supematant is used for clinical transplantation.
- 21. The method of Claim 1 wherein the volume of the fluid sample ranges from 100 milliliters to 3 liters.
- 22. The method of Claim 1 wherein the target pathogen is a prion.
- 23. The method of Claim 1 wherein the target pathogen is a virus.
- 24. The method of Claim 1 wherein the target pathogen is a bacterium.
- 25. The method of Claim 24 wherein the bacterium is Bacillus anthracis.
- 26. The method of Claim 24 whrein the bacterium is Yersinia pestis.
- The method of Claim 24 wherein the bacterium is Francisella tularensis.
- 28. The method of Claim 1 wherein said microparticles are coated with a poly (glutamic acid, lysine, tyrosine) tri-amino acid polymer, wherein said glutamic

acid, said lysine, and said tyrosine are present in said tri-amino acid polymer at a ratio of glutamic acid to lysine to tyrosine of 6:3:1.

29. A product, comprising:

- (a) a high density microparticle; and
- (b) a coating, said coating being a poly (glutamic acid, lysine, tyrosine) tri-amino acid polymer, wherein said glutamic acid, said lysine, and said tyrosine are present in said tri-amino acid polymer at a ratio of glutamic acid to lysine to tyrosine of 6:3:1.
- 30. The product of claim 29 wherein said high density microparticle is formed of nickel.
- 31. The product of Claim 30 wherein said high density microparticle has a diameter of 1 to 50 microns.
- 32. The product of claim 31 wherein said high density microparticle has a diameter of 3 to 35 microns.